CLAIMS:

1. A machine for depositing a film on a roll that can be used as a rotogravure printing medium, comprising:

a carriage for rotatably holding said roll;

a rotary driver for rotating said roll;

a linear driver for moving said carriage downstream along a processing path in order to move said roll axially; and

a coating head having an orifice in communication with a source of composition for dispensing said composition onto said roll as a merging series of adjacent, self-leveling strip or bead portions.

2. A machine according to claim 1 comprising:

curing means for (a) initially curing said composition film with an energy source at a primary energy flux density, and (b) secondarily curing said composition film with an energy source at a secondary energy flux density that is greater than said primary energy flux density.

3. A machine according to claim 2 wherein said linear driver is operable to move said carriage along said processing path from said coating head to said curing means.

4. A machine according to claim 1 wherein said linear and said rotary driver are linked to work at dependent, proportional speeds.

5. A machine according to claim 1 comprising:

a heater positioned in proximity to said coating head in a position to heat said roll before receiving said composition from said coating head.

6. A machine according to claim 5 wherein said heater is elongate, and

straddles and extends upstream of said coating head, so that said roll is preheated before and heated at said coating head.

7. A machine according to claim 6 comprising:

an infrared sensor coupled to said heater and located along said processing path to sense temperature of said roll and thermostatically regulate said heater.

8. A machine according to claim 5 wherein said linear driver is operable to move said carriage alongside said heater to said coating head.

9. A machine according to claim 5 comprising:

a primary curing station for initially curing said composition film with an energy source at a primary energy flux density, said linear driver being operable to move said carriage along said processing path from said heater, past said coating head to said primary curing station.

10. A machine according to claim 9 comprising:

a secondary curing station for secondarily curing said composition film with an energy source at a secondary energy flux density that is greater than said primary energy flux density, said linear driver being operable to move said carriage along said processing path from said heater, past said coating head and said primary curing station to said secondary curing station.

11. A machine according to claim 1 comprising:

a metering pump coupled to said source of composition for urging said composition through said orifice.

12. A machine according to claim 11 wherein said pump is driven in dependence on and in proportion to the angular speed of said rotary driver.

13. A machine according to claim 11 comprising:

a controller coupled to said either one of said rotary driver or said linear driver for sensing its operating speed, said controller being operable to drive said pump to operate in dependence on and in proportion to the operating speed, said controller being operable to adjust the proportionality between the speed of said pump and said operating speed.

14. A machine according to claim 11 comprising:

a source of compressed gas coupled to said source of composition for urging said composition through said metering pump.

15. A machine according to claim 1 wherein said coating head is adjustable to move said orifice along a discrete adjustment path that is radial relative to said roll.

16. A machine according to claim 15 wherein said adjustment path extends at an acute angle to vertical.

17. A machine according to claim 15 wherein said coating head has a tubular needle, said coating head having discrete adjustments to adjust the pitch and roll of said tubular needle.

18. A machine according to claim 1 wherein said coating head comprises:

a slider that is linearly adjustable to move said orifice along an adjustment path that is radial relative to said roll.

19. A machine according to claim 1 wherein said coating head comprises:

a heater element for heating composition flowing through said coating head.

20. A machine according to claim 19 wherein said coating head comprises:

a temperature sensor for sensing the temperature of said composition in said coating head and thermostatically controlling said heater element.

21. A machine according to claim 1 comprising:

a filter between said source of composition and said orifice for filtering said composition.

22. A machine according to claim 1 wherein said coating head comprises:

a filter for filtering said composition.

23. A machine according to claim 22 wherein said coating head comprises:

a pressure sensor for sensing and displaying information about the pressure of said composition in said coating head.

24. A machine according to claim 1 wherein said rotary driver comprises:

a drum extending axially along said processing path, said carriage having a bearer for bearing on said drum, said bearer being arranged to be driven by said drum in order to rotate said roll.

25. A machine according to claim 24 wherein said bearer comprises:

a bearer wheel rotatably mounted on said carriage to be driven by said drum in order to rotate said roll.

26. A machine according to claim 24 wherein said carriage comprises:

a pair of end supports independently riding on said drum, so that the spacing between said end supports is alterable to accommodate said roll.

27. A machine according to claim 26 wherein said bearer comprises:

a pair of bearer wheels rotatably mounted on different corresponding ones of said end supports to be driven by said drum in order to rotate said roll, said carriage being at least partially supported by said bearer wheels.

28. A machine according to claim 27 comprising:

a beam extending along said processing path, each of said end supports having a linear bearing riding said beam, said linear bearing being on an opposite side of said processing path than said bearer.

29. A machine according to claim 28 wherein said linear driver comprises:

a lead screw, said carriage having a nut releasably connected to said lead screw.

30. A machine according to claim 26 wherein each of said end supports comprises:

a spaced pair of gibs, said roll having on each end a sheave sized to fit between said gibs.

31. A machine according to claim 30 including an auxiliary rail located alongside said processing path, said carriage comprising:

a retractable lift wheel sized to ride on said auxiliary rail and lift said bearer, said lift wheel being manually retractable to place said bearer on said drum.

32. A machine according to claim 1 comprising:

a source of ionized air located upstream of said coating head for directing ionized air at the roll.

33. A machine according to claim 32 comprising:

a vacuum cleaner located between said source of ionized air and said coating head for removing particles from said roll.

34. A machine for depositing a film on a member that can be used as a rotogravure printing medium, comprising:

a carriage for holding said member;

a coating head for dispensing a composition onto said member;

curing means for (a) initially curing said composition film with an energy source at a primary energy flux density, and (b) secondarily curing said composition film with an energy source at a secondary energy flux density that is greater than said primary energy flux density.

35. A machine according to claim 34 wherein said curing means comprises:

a primary curing station for initially curing said composition film with an energy source at the primary energy flux density, said carriage being movable along a processing path past said coating head to said primary curing station.

36. A machine according to claim 35 comprising:

a secondary curing station for secondarily curing said composition film with an energy source at a secondary energy flux density that is greater than said primary energy flux density, said carriage being movable along said processing path past said coating head and said primary curing station to said secondary curing station.

a roll in order to make a rotogravure printing medium which includes a film coating that is selectively alterable to produce ink-retaining cells, wherein the method comprises the steps of:

positioning said roll at said coating head in order to dispense said composition onto said roll with said coating head;

rotating said roll about its axis while translating said roll axially past said coating head; and

helically dispensing said composition onto said roll as a merging series of adjacent, self-leveling strip or bead portions, the adjacent strip or bead portions merging and self-leveling at and after deposition to produce a uniform, continuous coating of the plastic composition.

42. A method according to claim 41 comprising the steps of:

moving said roll away from said coating head;

initially curing said composition film with an energy source at a primary energy flux density; and

secondarily curing said composition film with an energy source at a secondary energy flux density that is greater than said primary energy flux density.

43. A method according to claim 41 comprising the step of:

heating said roll before depositing said composition from said coating head.

44. A method according to claim 43 comprising the step of:

continuing heating of said roll at said coating head.

45. A method according to claim 43 comprising:

moving said roll along a processing path past said coating head; and

initially curing said composition film with an energy source at a primary

37. A method of making a rotogravure printing medium which includes a member with a film coating that is selectively alterable to produce ink-retaining cells, wherein the method comprises the steps of:

depositing on the surface of the member a composition film of irreversibly curable plastic composition which is engraveable after curing to produce ink-retaining cells;

initially curing said composition film with an energy source at a primary energy flux density; and

secondarily curing said composition film with an energy source at a secondary energy flux density that is greater than said primary energy flux density.

38. A method according to claim 37 wherein the step of depositing the coating is performed by:

depositing on the surface of the member a series of adjacent strip or bead portions of a self-leveling, irreversibly curable plastic composition which is engraveable after curing to produce ink-retaining cells, the adjacent strip or bead portions merging and self-leveling at and after deposition to produce a uniform, continuous coating of the plastic composition.

39. A method according to claim 37 wherein the step of initially curing is performed with said primary flux density at a magnitude sized to partially cure said composition film without surficially dimpling the composition film.

40. A method according to claim 39 wherein the step of initially curing is performed with said primary flux density at a magnitude sized to avoid forming a relatively hard shell upon the composition film.

41. A method employing a coating head for dispensing a composition on

energy flux density.

46. A method according to claim 41 comprising the step of:

adjusting the proportionality between the flow rate of the composition through said coating head and the angular speed of said roll.

47. A method according to claim 41 comprising the step of:

moving said coating head along a discrete adjustment path that is radial relative to said roll to adjust for roll size.

48. A method according to claim 47 wherein said adjustment path extends at an acute angle to vertical.

49. A method according to claim 47 wherein said coating head has a tubular needle, the method including the steps of:

discretely adjusting the pitch and roll of said tubular needle.

50. A method according to claim 41 comprising the step of:

heating the composition flowing through said coating head.

51. A method according to claim 50 comprising the step of:

sensing and thermostatically controlling the temperature of said composition in said coating head.

52. A method according to claim 41 comprising the step of:

filtering the composition before passing it out of said coating head.

53. A method according to claim 52 comprising the step of:

sensing and displaying information about the pressure of said composition in said coating head.

54. A method according to claim 41 comprising the step of:

directing a stream of ionized air on said roll before depositing said composition on said roll.

55. A method according to claim 54 comprising the step of:

vacuum cleaning said roll after treatment by the ionized air and before depositing said composition on said roll.